

10/799,676

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(FILE 'HOME' ENTERED AT 09:23:45 ON 01 FEB 2005)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:24:10 ON 01 FEB 2005

```
L1      1280112 S KINASE?
L2      120 S "SR PROTEIN-SPECIFIC"
L3      98 S L1 AND L2
L4      0 S "SPRK2"
L5      6900726 S CLON? OR EXPRESS? OR RECOMBINANT
L6      61 S L3 AND L5
L7      18 DUP REM L6 (43 DUPLICATES REMOVED)
        E ABUTHREIDEH J/AU
        E THREIDEH J/AU
        E ABU-THREIDEH J/AU
        E GONG F/AU
L8      234 S E3
        E KETCHUM K A/AU
        E KETCHUM K A/AU
L9      478 S E3-E8
        E DIFRANCESCO V/AU
L10     117 S E3-E4
        E BEASLEY E M/AU
L11     320 S E3
L12     973 S L8 OR L9 OR L10 OR L11
L13     2 S L2 AND L12
L14     2 S L3 AND L12
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NEWS 16 JAN 03 No connect-hour charges in EPFULL during January and
February 2005
NEWS 17 JAN 26 CA/CAPLUS - Expanded patent coverage to include the Russian
Agency for Patents and Trademarks (ROSPATENT)

NEWS EXPRESS JANUARY 10 CURRENT WINDOWS VERSION IS V7.01a, CURRENT
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AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005

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FILE 'LIFESCI' ENTERED AT 09:24:10 ON 01 FEB 2005
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=> s kinase?
 L1 1280112 KINASE?

=> s "SR protein-specific"
 L2 120 "SR PROTEIN-SPECIFIC"

=> s l1 and l2
 L3 98 L1 AND L2

=> s "SPRK2"
 L4 0 "SPRK2"

=> s clon? or express? or recombinant
 4 FILES SEARCHED...
 L5 6900726 CLON? OR EXPRESS? OR RECOMBINANT

=> s l3 and l5
 L6 61 L3 AND L5

=> dup rem l6
 PROCESSING COMPLETED FOR L6
 L7 18 DUP REM L6 (43 DUPLICATES REMOVED)

=> d 1-18 ibib ab

L7	ANSWER 1 OF 18	MEDLINE on STN	DUPLICATE 1
ACCESSION NUMBER:	2004141137	MEDLINE	
DOCUMENT NUMBER:	PubMed ID: 14718546		
TITLE:	Regulation of binding of lamin B receptor to chromatin by SR protein kinase and cdc2 kinase in Xenopus egg extracts.		

AUTHOR: Takano Makoto; Koyama Yuhei; Ito Hiromi; Hoshino Satomi; Onogi Hiroshi; Hagiwara Masatoshi; Furukawa Kazuhiro; Horigome Tsuneyoshi

CORPORATE SOURCE: Course of Biosphere Science, Graduate School of Science and Technology, Faculty of Science, Niigata University, Igarashi-2, Niigata 950-2181, Japan.

SOURCE: Journal of biological chemistry, (2004 Mar 26) 279 (13) 13265-71.
Journal code: 2985121R. ISSN: 0021-9258.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200405

ENTRY DATE: Entered STN: 20040323
Last Updated on STN: 20040510
Entered Medline: 20040507

AB Participation of multiple **kinases** in regulation of the binding of lamin B receptor (LBR) to chromatin was suggested previously (Takano, M., Takeuchi, M., Ito, H., Furukawa, K., Sugimoto, K., Omata, S., and Horigome, T. (2002) Eur. J. Biochem. 269, 943-953). To identify these **kinases**, regulation of the binding of the nucleoplasmic region (NK, amino acid residues 1-211) of LBR to sperm chromatin was studied using a cell cycle-dependent *Xenopus* egg extract in vitro. The binding was stimulated on specific phosphorylation of the NK fragment by an S-phase egg extract. Protein depletion with beads bearing SF2/ASF, which binds SR protein **kinases**, abolished this stimulation, suggesting that an SR protein **kinase(s)** is responsible for the activation of LBR. This was confirmed by direct phosphorylation and activation with **recombinant SR protein-specific kinase 1**. The binding of the NK fragment to chromatin pretreated with an S-phase extract was suppressed by incubation with an M-phase extract. Enzyme inhibitor experiments revealed that multiple **kinases** participate in the suppression. One of these **kinases** was shown to be **cdc2 kinase** using a specific inhibitor, roscovitine, and protein depletion with beads bearing p13, which specifically binds **cdc2 kinase**. Experiments involving a mutant NK fragment showed that the phosphorylation of serine 71 by **cdc2 kinase** is responsible for the suppression.

L7 ANSWER 2 OF 18 MEDLINE on STN DUPLICATE 2

ACCESSION NUMBER: 2003055549 MEDLINE

DOCUMENT NUMBER: PubMed ID: 12565829

TITLE: Protein **kinase** CK2 phosphorylates and activates the **SR protein-specific kinase 1**.

AUTHOR: Mylonis Ilias; Giannakouros Thomas

CORPORATE SOURCE: Laboratory of Biochemistry, Department of Chemistry, The Aristotelian University of Thessaloniki, Greece.

SOURCE: Biochemical and biophysical research communications, (2003 Feb 14) 301 (3) 650-6.
Journal code: 0372516. ISSN: 0006-291X.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200304

ENTRY DATE: Entered STN: 20030205
Last Updated on STN: 20030416
Entered Medline: 20030414

AB The serine/arginine subfamily of protein **kinases** has been conserved throughout evolution and its members are thought to play important roles in the regulation of multiple cellular processes. Mammalian SRPK1 has been considered as a constitutively active

kinase that is predominantly expressed in testis. In the present study, recombinant GST-SRPK1 was used as substrate to identify potential protein kinase(s) in testis extracts, involved in phosphorylating and thereby regulating the activity of this enzyme. Using a panel of chromatography media, inhibition by heparin, immunoblot analysis, and phosphopeptide mapping, CK2 was determined to be the major kinase that phosphorylates SRPK1. Phosphorylation of SRPK1 by CK2 occurred mainly at Ser(51) and Ser(555) in vitro, and resulted in approximately 6-fold activation of the enzyme. These findings suggest that SRPK1 may be an important cellular target for CK2 action.

L7 ANSWER 3 OF 18 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2003337419 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12869630
TITLE: Anticancer drug resistance induced by disruption of the
Saccharomyces cerevisiae NPR2 gene: a novel component
involved in cisplatin- and doxorubicin-provoked cell kill.
AUTHOR: Schenk Paul W; Brok Mariel; Boersma Antonius W M; Brandsma
Jourica A; Den Dulk Hans; Burger Herman; Stoter Gerrit;
Brouwer Jaap; Nooter Kees
CORPORATE SOURCE: Department of Medical Oncology, Erasmus University Medical
Center Rotterdam, Josephine Nefkens Building room Be422,
P.O. Box 1738, 3000 DR Rotterdam, The Netherlands.
SOURCE: Molecular pharmacology, (2003 Aug) 64 (2) 259-68.
Journal code: 0035623. ISSN: 0026-895X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200308
ENTRY DATE: Entered STN: 20030719
Last Updated on STN: 20030816
Entered Medline: 20030815

AB The therapeutic potential of antitumor drugs is seriously limited by the manifestation of cellular drug resistance. We used the budding yeast *Saccharomyces cerevisiae* as a model system to identify novel mechanisms of resistance to one of the most active anticancer agents, cisplatin. We pinpointed NPR2 (nitrogen permease regulator 2) as a gene whose disruption conferred resistance to cisplatin. In addition, we observed a 4-fold cross-resistance of yeast *npr2Delta* cells (i.e., cells from which the NPR2 gene had been disrupted) to the anticancer drug doxorubicin, in combination with hypersensitivity to cadmium chloride. Furthermore, *npr2Delta* cells displayed unaltered cellular cisplatin and doxorubicin accumulation and showed an enhanced rate of spontaneous mutation compared with the isogenic parent. These data indicate that the *npr2Delta* phenotype overlaps that of the *sky1Delta* cells that we characterized previously (Mol Pharmacol 61:659-666, 2002). Therefore, we generated yeast *npr2Delta sky1Delta* double-knockout cells and performed clonogenic survival assays for cisplatin and doxorubicin, which revealed that NPR2 and SKY1 (SR-protein-specific kinase from budding yeast) are epistatic. The double-knockout strain was just as resistant to cisplatin and doxorubicin as the single-knockout strain that was most resistant to either drug. In conclusion, we identified NPR2 as a novel component involved in cell kill provoked by cisplatin and doxorubicin, and our data support the hypothesis that NPR2 and SKY1 may use mutual regulatory routes to mediate the cytotoxicity of these anticancer drugs.

L7 ANSWER 4 OF 18 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2003148292 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12615334
TITLE: An early ancestor in the evolution of splicing: a
Trypanosoma cruzi serine-arginine-rich protein (TcSR) is
functional in cis-splicing.

AUTHOR: Portal Daniel; Espinosa Joaquin M; Lobo Guillermo S;
Kadener Sebastian; Pereira Claudio A; De La Mata Manuel;
Tang Zhaochua; Lin Ren-Jang; Kornblihtt Alberto R; Baralle
Francisco E; Flawia Mirtha M; Torres Hector N
CORPORATE SOURCE: Facultad de Ciencias Exactas y Naturales, Instituto de
Investigaciones en Ingenieria Genetica y Biologia
Molecular, Consejo Nacional de Investigaciones Cientificas
y Tecnicas, Universidad de Buenos Aires, Buenos Aires,
Argentina.
SOURCE: Molecular and biochemical parasitology, (2003 Mar) 127 (1)
37-46.
Journal code: 8006324. ISSN: 0166-6851.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200307
ENTRY DATE: Entered STN: 20030401
Last Updated on STN: 20030713
Entered Medline: 20030711

AB A novel serine-arginine-rich protein designated TcSR was identified in
Trypanosoma cruzi. The deduced amino acid sequence reveals that TcSR is a
member of the SR protein family of splicing factors that contains two
RNA-binding domains at the N-terminal side and several serine-arginine
repeats at the COOH-terminus. Over **expression** of either TcSR or
the human SR-protein associated splicing factor/splicing factor 2
(ASF/SF2) in wild-type Schizosaccharomyces pombe, provoked an elongated
phenotype similar to that of fission yeast over **expressing** the
SR-containing splicing factor Prp2, a U2AF(65) orthologue. When a double
mutant strain lacking two **SR protein-specific**
protein kinases was used, **expression** of TcSR or human
SR ASF/SF2 splicing factor reverted the mutant to a wild-type phenotype.
Transient **expression** of TcSR in HeLa cells stimulated the
inclusion of the EDI exon of human fibronectin in an in vivo functional
alternative cis-splicing assay. Inclusion was dependent on a splicing
enhancer sequence present in the EDI exon. In addition, TcSR and peptides
carrying TcSR-RS domain sequences were phosphorylated by a human SR
protein kinase. These results indicate that TcSR is a member of
the SR splicing network and that some components common to the trans- and
cis-splicing machineries evolved from the early origins of the eukaryotic
lineage.

L7 ANSWER 5 OF 18 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2003148290 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12615332
TITLE: Trypanosoma cruzi TcSRPK, the first protozoan member of the
SRPK family, is biochemically and functionally conserved
with metazoan **SR protein-**
specific kinases.
AUTHOR: Portal Daniel; Lobo Guillermo S; Kadener Sebastian; Prasad
Jayendra; Espinosa Joaquin M; Pereira Claudio A; Tang
Zhaochua; Lin Ren-Jang; Manley James L; Kornblihtt Alberto
R; Flawia Mirtha M; Torres Hector N
CORPORATE SOURCE: Facultad de Ciencias Exactas y Naturales, Instituto de
Investigaciones en Ingenieria Genetica y Biologia
Molecular, Consejo Nacional de Investigaciones Cientificas
y Tecnicas, Universidad de Buenos Aires, Buenos Aires,
Argentina.
SOURCE: Molecular and biochemical parasitology, (2003 Mar) 127 (1)
9-21.
Journal code: 8006324. ISSN: 0166-6851.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 200307
ENTRY DATE: Entered STN: 20030401
Last Updated on STN: 20030713
Entered Medline: 20030711

AB A novel **SR protein-specific kinase** (SRPK) from the SRPK family was identified for the first time in a protozoan organism. The primary structure of the protein, named TcSRPK, presents a significant degree of identity with other metazoan members of the family. In vitro phosphorylation experiments showed that TcSRPK has the same substrate specificity relative to other SRPKs. TcSRPK was able to generate a mAb104-recognized phosphoepitope, a SRPK landmark. **Expression** of TcSRPK in different *Schizosaccharomyces pombe* strains lead to conserved phenotypes, indicating that TcSRPK is a functional homologue of metazoan SRPKs. In functional alternative splicing assays in vivo in HeLa cells, TcSRPK enhanced SR protein-dependent inclusion of the EDI exon of the fibronectin minigene. When tested in vitro, it inhibited splicing either on nuclear extracts or on splicing-deficient S100 extracts complemented with ASF/SF2. This inhibition was similar to that observed with human SRPK1. This work constitutes the first report of a member of this family of proteins and the existence of an SR-network in a protozoan organism. The implications in the origins and control of splicing are discussed.

L7 ANSWER 6 OF 18 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 6

ACCESSION NUMBER: 2003-03137 BIOTECHDS

TITLE: New **SR protein-specific kinase** 2 peptides and nucleic acid sequences, useful as models for developing human therapeutic targets, in identifying therapeutic proteins, and in identifying agents that modulate **kinase** activity;
recombinant enzyme protein production and sense and antisense use in gene therapy

AUTHOR: ABU-THREIDEH J; GONG F; KETCHUM K A; DI FRANCESCO V; BEASLEY E M

PATENT ASSIGNEE: ABU-THREIDEH J; GONG F; KETCHUM K A; DI FRANCESCO V; BEASLEY E M

PATENT INFO: US 2002094560 18 Jul 2002

APPLICATION INFO: US 2001-759359 16 Jan 2001

PRIORITY INFO: US 2001-759359 16 Jan 2001; US 2001-759359 16 Jan 2001

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2002-681805 [73]

AB DERWENT ABSTRACT:

NOVELTY - An isolated human **kinase** peptide, is new.

DETAILED DESCRIPTION - An isolated human **kinase** peptide, comprising or consisting of: (a) a fully defined sequence of 699 amino acids (I) given in the specification; (b) an allelic variant or an ortholog of (I) encoded by a nucleic acid that hybridizes under stringent conditions to the opposite strand of a nucleic acid having a sequence of 3253 (II) or 90541 (III) bp given in the specification; or (c) a fragment of (I) comprising at least 10 contiguous amino acids. INDEPENDENT CLAIMS are also included for the following: (1) an isolated antibody that selectively binds to the peptide; (2) an isolated nucleic acid molecule consisting or comprising: (a) a nucleotide sequence encoding (I); (b) a nucleotide sequence that encodes an allelic variant or ortholog of (I) and that hybridizes under stringent conditions to the opposite strand of (II) or (III); (c) a nucleotide sequence that encodes a fragment of (I) comprising at least 10 contiguous amino acids; (d) a complement of (a)-(c); (3) a gene chip comprising the nucleic acid; (4) a transgenic non-human animal comprising the nucleic acid; (5) a nucleic acid vector comprising the nucleic acid; (6) a host cell containing the nucleic acid vector; (7) a method for producing the peptide defined above by

introducing a nucleotide sequence encoding an amino acid sequence defined above into a host cell, and culturing the host cell under conditions in which the peptides are **expressed** from the nucleotide sequence;

(8) a method for detecting the presence of a nucleic acid molecule as defined above, in a sample, by contacting the sample with an oligonucleotide that hybridizes to the nucleic acid molecule under stringent conditions, and determining whether the oligonucleotide binds to the nucleic acid molecule in the sample; (9) a method for identifying a modulator of a peptide defined above with an agent, and determining if the agent has modulated the function or activity of the peptide; (10) a method for identifying an agent that binds to a peptide defined above, by contacting the peptide with an agent and assaying the contacted mixture to determine whether a complex is formed with the agent bound to the peptide; (11) a pharmaceutical composition comprising an agent identified by the method of (10), and a pharmaceutical carrier; (12) a method of treating a disease or condition mediated by a human **kinase** protein by administering an agent identified in (10); (13) a method for identifying a modulator of the **expression** of a peptide defined above, by contacting the cell **expressing** the peptide with an agent, and determining if the agent has modulated the **expression** of the peptide; (14) an isolated human **kinase** peptide having an amino acids sequence that shares at least 70% homology with (I); and (15) an isolated nucleic acid molecule encoding a human **kinase** peptide and sharing at least 80% homology with (II) or (III).

BIOTECHNOLOGY - Preparation: The peptides are isolated from cells by standard isolation techniques. Preferred Method: The agent is administered to a host cell comprising an **expression** vector that **expresses** the peptide. Preferred Sequence: The human **kinase** peptide preferably shares at least 90% homology with (I). The nucleic acid encoding the human **kinase** peptide preferably shares at least 90% homology with (II) or (III).

USE - The **SR protein-specific**

kinase 2 peptide and nucleic acid sequences can be used as models for the development of human therapeutic targets, aid in the identification of therapeutic proteins, and as targets for the development of human therapeutic agents that modulate **kinase** activity in cells and tissues that **express** the **kinase**. These may further be used as query sequences to perform a search against sequence databases to identify other family members or related sequences. The peptides can also be used to raise antibodies or to elicit another immune response, as markers for tissues in which the corresponding protein is preferentially **expressed**, to identify the binding partner/ligand to develop a system to identify inhibitors of the binding interaction, and in pharmacogenomic analysis. The nucleic acids are useful as probes or primers, for **expressing** antigenic portions of the proteins, for constructing vectors, host cells or transgenic animals **expressing** the nucleic acids and peptide, for monitoring the effectiveness of modulating compounds on the **expression** or activity of the **kinase** gene in clinical trials or in treatment regimen, and as antisense constructs to control **kinase** gene **expression**.

EXAMPLE - No example given. (56 pages)

L7 ANSWER 7 OF 18 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 7

ACCESSION NUMBER: 2002-19513 BIOTECHDS

TITLE: New polypeptide **SR protein**
specific serine kinase 17.49 and encoding
polynucleotides for treating malignant tumors, inflammations,
immunological diseases, hemopathy and human immunodeficiency
virus infection;
vector-mediated **recombinant** protein gene
transfer and **expression** in host cell for use in
cancer and HIV virus infection therapy

AUTHOR: MAO Y; XIE Y
PATENT ASSIGNEE: BODE GENE DEV CO LTD SHANGHAI
PATENT INFO: CN 1347993 8 May 2002
APPLICATION INFO: CN 2000-125676 11 Oct 2000
PRIORITY INFO: CN 2000-125676 11 Oct 2000
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
OTHER SOURCE: WPI: 2002-549000 [59]

AB DERWENT ABSTRACT:

NOVELTY - The present invention discloses one new kind of polypeptide, **SR protein specific serine kinase 17.49**, polynucleotides encoding this polypeptide and DNA recombination process to produce the polypeptide. The present invention also discloses the method of applying the polypeptide in treating various diseases, such as malignant tumors, inflammations, immunological diseases, hemopathy and human immunodeficiency virus infection. The present invention also discloses the antagonist resisting the polypeptide and its treatment effect. The present invention also discloses the application of the polynucleotides encoding **SR protein specific serine kinase 17.49**.

L7 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:946580 HCAPLUS

DOCUMENT NUMBER: 138:20579

TITLE: **SR protein-specific kinases (SRPKs)** as modifiers of the p53 pathway and uses thereof in diagnosis, therapy and drug screening

INVENTOR(S): Friedman, Lori; Plowman, Gregory D.; Belvin, Marcia; Francis-Lang, Helen; Li, Danxi; Funke, Roel P.

PATENT ASSIGNEE(S): Exelixis, Inc., USA

SOURCE: PCT Int. Appl., 137 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 46

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002099427	A1	20021212	WO 2002-US17525	20020603
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2002192695	A1	20021219	US 2002-161510	20020603
US 2003013144	A1	20030116	US 2002-161398	20020603
US 2003036076	A1	20030220	US 2002-160758	20020603
US 2003165809	A1	20030904	US 2002-161565	20020603
PRIORITY APPLN. INFO.:			US 2001-296076P	P 20010605
			US 2001-328605P	P 20011010
			US 2002-357253P	P 20020215

AB The invention has designed genetic screens to identify modifiers of the p53 pathway in *Drosophila* in which p53 was overexpressed in the wing. In a screen designed to identify enhancers and suppressors of *Drosophila* p53, homozygous females carrying two copies of p53 have been crossed to 5663 males carrying random insertions of a piggyBac transposon. Progeny containing insertions have been compared to non-insertion-bearing sibling progeny for

enhancement or suppression of the p53 phenotypes. Sequence information surrounding the piggyBac insertion site has been used to identify the modifier genes. Modifiers of the wing phenotype have been identified as members of the p53 pathway. The CG8147 gene, which is an enhancer of the wing phenotype, has been identified as a modifier of the p53 pathway. Accordingly, vertebrate orthologs of these modifiers, and preferably the human orthologs, **SR protein-specific kinase** (SRPK) genes are attractive drug targets for the treatment of pathologies associated with a defective p53 signaling pathway, such as cancer. The invention also provides methods for utilizing these p53 modifier genes and polypeptides to identify candidate therapeutic agents that can be used in the treatment of disorders associated with defective p53 function.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:794454 HCAPLUS

DOCUMENT NUMBER: 137:274059

TITLE: Protein and cDNA sequences of human serine/arginine-rich protein specific serine **kinase** 212.98 and therapeutical uses

INVENTOR(S): Mao, Yumin; Xie, Yi

PATENT ASSIGNEE(S): Bode Gene Development Co., Ltd., Shanghai, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 34 pp. CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1331319	A	20020116	CN 2000-116940	20000630
WO 2002026791	A1	20020404	WO 2001-CN1069	20010629
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: CN 2000-116940 A 20000630

AB The invention provides the protein and cDNA sequences of a novel human serine/arginine-rich protein (**SR protein**) **specific serine kinase** 212.98 with the mol. weight of 13 kilodaltons **cloned** from human fetal brain. In particular, the invention discloses that the gene encoding this protein has a similar gene **expression** pattern with gene encoding **SR protein specific serine kinase**. The invention also relates to construction of serine/arginine-rich protein specific serine **kinase** 212.98 **expression** vector for preparation of **recombinant** protein using prokaryotes or eukaryotes. The invention relates to preparation of antibody against this protein. The invention further relates to the PCR primers, nucleic acid probes, DNA fragments and protein agonists or antagonists specific for this gene or gene product for the diagnosis as well as treatment of various diseases, such as tumors, blood diseases, HIV infections, immune disorders, inflammations and development disorders.

L7 ANSWER 10 OF 18 MEDLINE on STN

ACCESSION NUMBER: 2002385243 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 12134018
 TITLE: Identification of SRPK1 and SRPK2 as the major cellular protein **kinases** phosphorylating hepatitis B virus core protein.
 AUTHOR: Daub Henrik; Blencke Stephanie; Habenberger Peter; Kurtenbach Alexander; Dennenmoser Julia; Wissing Josef; Ullrich Axel; Cotten Matt
 CORPORATE SOURCE: Axxima Pharmaceuticals AG, 82152 Martinsried, Germany.. daub@axxima.com
 SOURCE: Journal of virology, (2002 Aug) 76 (16) 8124-37. Journal code: 0113724. ISSN: 0022-538X.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200208
 ENTRY DATE: Entered STN: 20020723
 Last Updated on STN: 20020824
 Entered Medline: 20020823

AB Phosphorylation of hepatitis B virus (HBV) core protein has recently been shown to be a prerequisite for pregenomic RNA encapsidation into viral capsids, but the host cell **kinases** mediating this essential step of the HBV replication cycle have not been identified. We detected two **kinases** of 95 and 115 kDa in HuH-7 total cell lysates which interacted specifically with the HBV core protein and phosphorylated its arginine-rich C-terminal domain. The 95-kDa **kinase** was purified and characterized as **SR protein-specific kinase 1** (SRPK1) by mass spectrometry. Based on this finding, the 115-kDa **kinase** could be identified as the related **kinase** SRPK2 by immunoblot analysis. In vitro, both SRPKs phosphorylated HBV core protein on the same serine residues which are found to be phosphorylated in vivo. Moreover, the major cellular HBV core **kinase** activity detected in the total cell lysate showed biochemical properties identical to those of SRPK1 and SRPK2, as examined by measuring binding to a panel of chromatography media. We also clearly demonstrate that neither the cyclin-dependent **kinases** Cdc2 and Cdk2 nor protein **kinase** C, previously implicated in HBV core protein phosphorylation, can account for the HBV core protein **kinase** activity. We conclude that both SRPK1 and SRPK2 are most likely the cellular protein **kinases** mediating HBV core protein phosphorylation during viral infection and therefore represent important host cell targets for therapeutic intervention in HBV infection.

L7 ANSWER 11 OF 18 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation. on STN

ACCESSION NUMBER: 2002:207416 SCISEARCH
 THE GENUINE ARTICLE: 525FL
 TITLE: Inactivation of the Saccharomyces cerevisiae SKY1 gene induces a specific modification of the yeast anticancer drug sensitivity profile accompanied by a mutator phenotype
 AUTHOR: Schenk P W; Boersma A W M; Brok M; Burger H; Stoter G; Nooter K (Reprint)
 CORPORATE SOURCE: Univ Rotterdam Hosp, Dept Med Oncol, Dr Daniel Den Hoed Canc Ctr, Josephine Nefkens Bldg, Room Be422, POB 1738, NL-3000 DR Rotterdam, Netherlands (Reprint); Univ Rotterdam Hosp, Dept Med Oncol, Dr Daniel Den Hoed Canc Ctr, NL-3000 DR Rotterdam, Netherlands
 COUNTRY OF AUTHOR: Netherlands
 SOURCE: MOLECULAR PHARMACOLOGY, (MAR 2002) Vol. 61, No. 3, pp. 659-666.
 Publisher: AMER SOC PHARMACOLOGY EXPERIMENTAL THERAPEUTICS
 9650 ROCKVILLE PIKE, BETHESDA, MD 20814-3998 USA.

ISSN: 0026-895X.

DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 40

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The therapeutic potential of the highly active anticancer agent cisplatin is severely limited by the occurrence of cellular resistance. A better understanding of the molecular pathways involved in cisplatin-induced cell death could potentially indicate ways to overcome cellular unresponsiveness to the drug and thus lead to better treatment results. We used the budding yeast *Saccharomyces cerevisiae* as a model organism to identify and characterize novel genes involved in cisplatin-induced cell kill, and found that SKY1 (**SR-protein-specific kinase** from budding yeast) is a cisplatin sensitivity gene whose disruption conferred cisplatin resistance. In cross-resistance studies, we observed resistance of yeast sky1Delta cells (i.e., cells from which the SKY1 gene had been disrupted) to cisplatin, carboplatin (but not oxaliplatin), doxorubicin and daunorubicin, and hypersensitivity to cadmium chloride and 5-fluorouracil. Furthermore, these cells did not display reduced platinum accumulation, DNA platination or doxorubicin accumulation, indicating that the resistance is unrelated to decreased drug import or increased drug export. Based on the modification of the anticancer drug sensitivity profile and our finding that sky1Delta cells display a mutator phenotype, we propose that Sky1p might play a significant role in specific repair and/or tolerance pathways. Disruption of the *S. cerevisiae* SKY1 gene would thus result in deregulation of such mechanisms and, consequently, lead to altered drug sensitivity.

L7 ANSWER 12 OF 18 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 2000094960 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10629038
TITLE: Biochemical and genetic conservation of fission yeast Dsk1 and human **SR protein-specific kinase 1**.
AUTHOR: Tang Z; Kuo T; Shen J; Lin R J
CORPORATE SOURCE: Department of Molecular Biology, Beckman Research Institute of the City of Hope, Duarte, California 91010, USA.
SOURCE: Molecular and cellular biology, (2000 Feb) 20 (3) 816-24. Journal code: 8109087. ISSN: 0270-7306.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200002
ENTRY DATE: Entered STN: 20000229
Last Updated on STN: 20020420
Entered Medline: 20000214

AB Arginine/serine-rich (RS) domain-containing proteins and their phosphorylation by specific protein **kinases** constitute control circuits to regulate pre-mRNA splicing and coordinate splicing with transcription in mammalian cells. We present here the finding that similar SR networks exist in *Schizosaccharomyces pombe*. We previously showed that Dsk1 protein, originally described as a mitotic regulator, displays high activity in phosphorylating *S. pombe* Prp2 protein (spU2AF59), a homologue of human U2AF65. We now demonstrate that Dsk1 also phosphorylates two recently identified fission yeast proteins with RS repeats, Srp1 and Srp2, in vitro. The phosphorylated proteins bear the same phosphoepitope found in mammalian SR proteins. Consistent with its substrate specificity, Dsk1 forms **kinase-competent** complexes with those proteins. Furthermore, dsk1(+) gene determines the phenotype of prp2(+) overexpression, providing in vivo evidence that Prp2 is a target for Dsk1. The dsk1-null mutant strain became severely sick with the additional deletion of a related **kinase** gene.

Significantly, human **SR protein-specific kinase 1** (SRPK1) complements the growth defect of the double-deletion mutant. In conjunction with the resemblance of dsk1(+) and SRPK1 in sequence homology, biochemical properties, and overexpression phenotypes, the complementation result indicates that SRPK1 is a functional homologue of Dsk1. Collectively, our studies illustrate the conserved SR networks in *S. pombe* consisting of RS domain-containing proteins and **SR protein-specific kinases** and thus establish the importance of the networks in eucaryotic organisms.

L7 ANSWER 13 OF 18 MEDLINE on STN
 ACCESSION NUMBER: 2000458663 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 10952997
 TITLE: Conserved SR protein **kinase** functions in nuclear import and its action is counteracted by arginine methylation in *Saccharomyces cerevisiae*.
 AUTHOR: Yun C Y; Fu X D
 CORPORATE SOURCE: Department of Cellular and Molecular Medicine, University of California at San Diego, La Jolla, California 92093-0651, USA.
 SOURCE: Journal of cell biology, (2000 Aug 21) 150 (4) 707-18. Journal code: 03753556. ISSN: 0021-9525.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200009
 ENTRY DATE: Entered STN: 20001005
 Last Updated on STN: 20030207
 Entered Medline: 20000928

AB Mammalian serine and arginine-rich (SR) proteins play important roles in both constitutive and regulated splicing, and **SR protein-specific kinases** (SRPKs) are conserved from humans to yeast. Here, we demonstrate a novel function of the single conserved SR protein **kinase** Skyp1 in nuclear import in budding yeast. The yeast SR-like protein Npl3p is known to enter the nucleus through a composite nuclear localization signal (NLS) consisting of a repetitive arginine- glycine-glycine (RGG) motif and a nonrepetitive sequence. We found that the latter is the site for phosphorylation by Skyp1 and that this phosphorylation regulates nuclear import of Npl3p by modulating the interaction of the RGG motif with its nuclear import receptor Mtr10p. The RGG motif is also methylated on arginine residues, but methylation does not affect the Npl3p-Mtr10p interaction in vitro. Remarkably, arginine methylation interferes with Skyp1-mediated phosphorylation, thereby indirectly influencing the Npl3p-Mtr10p interaction in vivo and negatively regulating nuclear import of Npl3p. These results suggest that nuclear import of Npl3p is coordinately influenced by methylation and phosphorylation in budding yeast, which may represent conserved components in the dynamic regulation of RNA processing in higher eukaryotic cells.

L7 ANSWER 14 OF 18 MEDLINE on STN DUPLICATE 9
 ACCESSION NUMBER: 1999380486 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 10390541
 TITLE: **SR protein-specific kinase 1** is highly **expressed** in testis and phosphorylates protamine 1.
 AUTHOR: Papoutsopoulou S; Nikolakaki E; Chalepakis G; Krufft V; Chevaillier P; Giannakouros T
 CORPORATE SOURCE: Laboratory of Biochemistry, School of Chemistry, The Aristotelian University of Thessaloniki, Thessaloniki 54 006, Greece.
 SOURCE: Nucleic acids research, (1999 Jul 15) 27 (14) 2972-80. Journal code: 0411011. ISSN: 0305-1048.

PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AJ224115
ENTRY MONTH: 199909
ENTRY DATE: Entered STN: 19990925
Last Updated on STN: 20020420
Entered Medline: 19990903

AB Arginine/serine protein **kinases** constitute a novel class of enzymes that can modify arginine/serine (RS) dipeptide motifs. SR splicing factors that are essential for pre-mRNA splicing are among the best characterized proteins that contain RS domains. TwoSRprotein-specific **kinases**, SRPK1 and SRPK2, have been considered as highly specific for the phosphorylation of these proteins, thereby contributing to splicing regulation. However, despite the fact that SR proteins are more or less conserved among metazoa and have a rather ubiquitous tissue distribution we now demonstrate that SRPK1 is predominantly **expressed** in testis. In situ **expression** analysis on transverse sections of adult mouse testis shows that SRPK1 mRNA is abundant in all germinal cells but not in mature spermatozoa. RS **kinase** activity was found primarily in the cytosol and only minimal activity was detected in the nucleus. In a search for testis-specific substrates of SRPK1 we found that the enzyme phosphorylates human protamine 1 as well as a cytoplasmic pool of SR proteins present in the testis. Protamine 1 belongs to a family of small basic arginine-rich proteins that replace histones during the development of mature spermatozoa. The result of this progressive replacement is the formation of a highly compact chromatin structure devoid of any transcriptional activity. These findings indicate that SRPK1 may have a role not only in pre-mRNA splicing, but also in the condensation of sperm chromatin.

L7 ANSWER 15 OF 18 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 1999160399 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10049757
TITLE: SRPK1 and LBR protein **kinases** show identical substrate specificities.
AUTHOR: Papoutsopoulou S; Nikolakaki E; Giannakouros T
CORPORATE SOURCE: Laboratory of Biochemistry, School of Chemistry, Aristotelian University of Thessaloniki, Thessaloniki, 54 006, Greece.
SOURCE: Biochemical and biophysical research communications, (1999 Feb 24) 255 (3) 602-7.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199904
ENTRY DATE: Entered STN: 19990413
Last Updated on STN: 20020420
Entered Medline: 19990401

AB Arginine/serine protein **kinases** constitute a novel class of enzymes that can modify arginine/serine (RS) dipeptide motifs. SR splicing factors that are essential for pre-mRNA splicing and the lamin B receptor (LBR), an integral protein of the inner nuclear membrane, are among the best characterized proteins that contain RS domains. Two **SR Protein-specific Kinases**, SRPK1 and SRPK2, have been shown to phosphorylate specifically the RS motifs of the SR family of splicing factors and play an important role in regulating both the spliceosome assembly and their intranuclear distribution, whereas an LBR-associated **kinase**, that specifically phosphorylates a stretch of RS repeats located at the NH2-terminal region of LBR, has been

recently purified and characterized from turkey erythrocyte nuclear envelopes. Using synthetic peptides representing different regions of LBR and **recombinant** proteins produced in bacteria we now demonstrate that SRPK1 modifies LBR with similar kinetics and on the same sites as the LBR **kinase**, that are also phosphorylated in vivo. These data provide significant evidence for a new role of SRPK1 in addition to that of pre-mRNA splicing.

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L7 ANSWER 16 OF 18 MEDLINE on STN
ACCESSION NUMBER: 1998158002 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9488736
TITLE: Fission yeast mitotic regulator Dsk1 is an **SR protein-specific kinase**.
AUTHOR: Tang Z; Yanagida M; Lin R J
CORPORATE SOURCE: Department of Molecular Biology, Beckman Research Institute of the City of Hope, Duarte, California 91010, USA.
SOURCE: Journal of biological chemistry, (1998 Mar 6) 273 (10) 5963-9.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199804
ENTRY DATE: Entered STN: 19980416
Last Updated on STN: 20020420
Entered Medline: 19980407

AB Intricate interplay may exist between pre-mRNA splicing and the cell division cycle, and fission yeast Dsk1 appears to play a role in such a connection. Previous genetic analyses have implicated Dsk1 in the regulation of chromosome segregation at the metaphase/anaphase transition. Yet, its protein sequence suggests that Dsk1 may function as a **kinase** specific for SR proteins, a family of pre-mRNA splicing factors containing arginine-serine repeats. Using an in vitro system with purified components, we showed that Dsk1 phosphorylated human and yeast SR proteins with high specificity. The Dsk1-phosphorylated SF2/ASF protein was recognized strongly by a monoclonal antibody (mAb104) known to bind the in vivo phosphoepitope shared by SR proteins, indicating that the phosphorylation sites resided in the RS domain. Moreover, the fission yeast U2AF65 homolog, Prp2/Mis11 protein, was phosphorylated more efficiently by Dsk1 than by a human **SR protein-specific kinase**, SRPK1. Thus, these in vitro results suggest that Dsk1 is a fission yeast **SR protein-specific kinase**, and Prp2/Mis11 is likely an in vivo target for Dsk1. Together with previous genetic data, the studies support the notion that Dsk1 may play a role in coordinating pre-mRNA splicing and the cell division cycle.

L7 ANSWER 17 OF 18 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 1998139536 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9472028
TITLE: SRPK2: a differentially **expressed SR protein-specific kinase** involved in mediating the interaction and localization of pre-mRNA splicing factors in mammalian cells.
AUTHOR: Wang H Y; Lin W; Dyck J A; Yeakley J M; Songyang Z; Cantley L C; Fu X D
CORPORATE SOURCE: Division of Cellular and Molecular Medicine, Department of Medicine, University of California, San Diego, La Jolla, California 92093-0651, USA.
CONTRACT NUMBER: GM52872 (NIGMS)
SOURCE: Journal of cell biology, (1998 Feb 23) 140 (4) 737-50.
Journal code: 0375356. ISSN: 0021-9525.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-U88666
ENTRY MONTH: 199803
ENTRY DATE: Entered STN: 19980326
Last Updated on STN: 20020420
Entered Medline: 19980316

AB Reversible phosphorylation plays an important role in pre-mRNA splicing in mammalian cells. Two **kinases**, **SR protein-specific kinase** (SRPK1) and Clk/Sty, have been shown to phosphorylate the SR family of splicing factors. We report here the **cloning** and characterization of SRPK2, which is highly related to SRPK1 in sequence, **kinase** activity, and substrate specificity. Random peptide selection for preferred phosphorylation sites revealed a stringent preference of SRPK2 for SR dipeptides, and the consensus derived may be used to predict potential phosphorylation sites in candidate arginine and serine-rich (RS) domain-containing proteins. Phosphorylation of an SR protein (ASF/SF2) by either SRPK1 or 2 enhanced its interaction with another RS domain-containing protein (U1 70K), and overexpression of either **kinase** induced specific redistribution of splicing factors in the nucleus. These observations likely reflect the function of the SRPK family of **kinases** in spliceosome assembly and in mediating the trafficking of splicing factors in mammalian cells. The biochemical and functional similarities between SRPK1 and 2, however, are in contrast to their differences in **expression**. SRPK1 is highly **expressed** in pancreas, whereas SRPK2 is highly **expressed** in brain, although both are coexpressed in other human tissues and in many experimental cell lines. Interestingly, SRPK2 also contains a proline-rich sequence at its NH2 terminus, and a recent study showed that this NH2-terminal sequence has the capacity to interact with a WW domain protein in vitro. Together, our studies suggest that different SRPK family members may be uniquely regulated and targeted, thereby contributing to splicing regulation in different tissues, during development, or in response to signaling..

L7 ANSWER 18 OF 18 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 1998113357 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9446799
TITLE: Novel **SR-protein-specific kinase**, SRPK2, disassembles nuclear speckles.
AUTHOR: Kuroyanagi N; Onogi H; Wakabayashi T; Hagiwara M
CORPORATE SOURCE: Department of Anatomy, Nagoya University School of Medicine, Japan.
SOURCE: Biochemical and biophysical research communications, (1998 Jan 14) 242 (2) 357-64.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AB012290
ENTRY MONTH: 199802
ENTRY DATE: Entered STN: 19980312
Last Updated on STN: 20020420
Entered Medline: 19980227

AB **SR-protein-specific kinase 1**
(SRPK1) is first identified as a specific **kinase** for SR splicing factors. By RT-PCR of a conserved **kinase** domain, novel **SR-protein-specific kinase clones** were isolated from mouse brain. The **cloned cDNAs** encode a 106 kDa protein (648 amino acids, 92% identical to human SRPK1) and a 120 kDa protein (681 amino acids, 58% identical to human SRPK1).

Therefore, they were designated mSRPK1 and mSRPK2, respectively. Northern blotting revealed the ubiquitous **expression** of mSRPK1 in all tissues examined and the tissue-specific **expression** of mSRPK2 in testis, lung, and brain. Both **kinases** phosphorylated SF2/ASF, a member of SR proteins in vitro and the phosphopeptide mappings were identical, indicating that these **kinases** phosphorylate the same site of SF2/ASF. Overexpression of mSRPK2 caused disassembly of cotransfected SF2/ASF and endogenous SC35. Our results indicate that SRPK family members may regulate the disassembly of the SR proteins in a tissue-specific manner.

=> e abuthreideh j/au

E1	1	ABUTHINA H A/AU
E2	1	ABUTHREDEIH J/AU
E3	1 -->	ABUTHREIDEH J/AU
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E6	14	ABUTIDZE K D/AU
E7	5	ABUTIDZE KETEVAN/AU
E8	7	ABUTIDZE M/AU
E9	3	ABUTIN M V/AU
E10	6	ABUTIN R M/AU
E11	6	ABUTIN RANDOLPH M/AU
E12	20	ABUTKOV A V/AU

=> e threideh j/au

E1	1	THREFFRY A/AU
E2	1	THREHAN I R/AU
E3	2 -->	THREIDEH J/AU
E4	1	THREIDEH JANE/AU
E5	2	THREIGE RASMUSSEN J/AU
E6	2	THREIGE RASMUSSEN JAN/AU
E7	1	THREIGERASMUSSEN J/AU
E8	13	THREIL F/AU
E9	3	THREIL M/AU
E10	1	THREILFALL W/AU
E11	3	THREILHAUD M/AU
E12	1	THREINEN A B/AU

=> e abu-threideh j/au

E1	42	ABU ZUHRI ALI Z/AU
E2	3	ABU ZURAYK A R/AU
E3	0 -->	ABU-THREIDEH J/AU
E4	9	ABUA J U/AU
E5	6	ABUAAN M M/AU
E6	3	ABUAAN MOHAMMED M/AU
E7	1	ABUABARA A/AU
E8	8	ABUABARA F/AU
E9	11	ABUABARA J Y/AU
E10	4	ABUABARA K/AU
E11	5	ABUABARA KATRINA/AU
E12	2	ABUABARA M A P/AU

=> e gong f/au

E1	1	GONG ENXIANG/AU
E2	6	GONG EUN YEUNG/AU
E3	234 -->	GONG F/AU
E4	36	GONG F C/AU
E5	23	GONG F F/AU
E6	7	GONG F H/AU
E7	3	GONG F J/AU
E8	1	GONG F K/AU
E9	45	GONG F L/AU

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E10      2      GONG F M/AU
E11      7      GONG F Q/AU
E12      1      GONG F R/AU
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=> s e3

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L8      234 "GONG F"/AU
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=> e ketchum k a/au

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E1      1      KETCHUM JR R L/AU
E2      34      KETCHUM K/AU
E3      232 --> KETCHUM K A/AU
E4      1      KETCHUM K J/AU
E5      34      KETCHUM K L/AU
E6      22      KETCHUM KAREN/AU
E7      188     KETCHUM KAREN A/AU
E8      1      KETCHUM KAREN ANN/AU
E9      2      KETCHUM KATHY/AU
E10     2      KETCHUM KATHY L/AU
E11     4      KETCHUM KEVIN/AU
E12     3      KETCHUM KEVIN L/AU
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=> d e3

'E3' IS NOT A VALID FORMAT

In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.

REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):end

=> d his

(FILE 'HOME' ENTERED AT 09:23:45 ON 01 FEB 2005)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:24:10 ON 01 FEB 2005

```
L1      1280112 S KINASE?
L2      120 S "SR PROTEIN-SPECIFIC"
L3      98 S L1 AND L2
L4      0 S "SPRK2"
L5      6900726 S CLON? OR EXPRESS? OR RECOMBINANT
L6      61 S L3 AND L5
L7      18 DUP REM L6 (43 DUPLICATES REMOVED)
          E ABUTHREIDEH J/AU
          E THREIDEH J/AU
          E ABU-THREIDEH J/AU
          E GONG F/AU
L8      234 S E3
          E KETCHUM K A/AU
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=> e ketchum k a/au

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E1      1      KETCHUM JR R L/AU
E2      34      KETCHUM K/AU
E3      232 --> KETCHUM K A/AU
E4      1      KETCHUM K J/AU
E5      34      KETCHUM K L/AU
E6      22      KETCHUM KAREN/AU
E7      188     KETCHUM KAREN A/AU
E8      1      KETCHUM KAREN ANN/AU
E9      2      KETCHUM KATHY/AU
E10     2      KETCHUM KATHY L/AU
E11     4      KETCHUM KEVIN/AU
E12     3      KETCHUM KEVIN L/AU
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=> s e3-e8

L9 478 ("KETCHUM K A"/AU OR "KETCHUM K J"/AU OR "KETCHUM K L"/AU OR
"KETCHUM KAREN"/AU OR "KETCHUM KAREN A"/AU OR "KETCHUM KAREN
ANN"/AU)

=> e difrancesco v/au

E1 1 DIFRANCESCO U/AU
E2 1 DIFRANCESCO U M/AU
E3 100 --> DIFRANCESCO V/AU
E4 17 DIFRANCESCO VALENTINA/AU
E5 1 DIFRANCESCO L/AU
E6 1 DIFRANCESCO D/AU
E7 2 DIFRANCESCO L/AU
E8 1 DIFRANCESCO R/AU
E9 1 DIFRANCESCO ROBIN/AU
E10 1 DIFRANCESCO L/AU
E11 6 DIFRANCIA C/AU
E12 4 DIFRANCIA CELENE/AU

=> s e3-e4

L10 117 ("DIFRANCESCO V"/AU OR "DIFRANCESCO VALENTINA"/AU)

=> e beasley e m/au

E1 1 BEASLEY E H/AU
E2 6 BEASLEY E L/AU
E3 320 --> BEASLEY E M/AU
E4 7 BEASLEY E O/AU
E5 1 BEASLEY E S G/AU
E6 2 BEASLEY E T/AU
E7 4 BEASLEY E W/AU
E8 2 BEASLEY E W 3RD/AU
E9 2 BEASLEY E W III/AU
E10 1 BEASLEY E W JR/AU
E11 1 BEASLEY EDWARD E/AU
E12 1 BEASLEY EDWARD EVANS/AU

=> s e3

L11 320 "BEASLEY E M"/AU

=> d his

(FILE 'HOME' ENTERED AT 09:23:45 ON 01 FEB 2005)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
LIFESCI' ENTERED AT 09:24:10 ON 01 FEB 2005

L1 1280112 S KINASE?
L2 120 S "SR PROTEIN-SPECIFIC"
L3 98 S L1 AND L2
L4 0 S "SPRK2"
L5 6900726 S CLON? OR EXPRESS? OR RECOMBINANT
L6 61 S L3 AND L5
L7 18 DUP REM L6 (43 DUPLICATES REMOVED)
E ABUTHREIDEH J/AU
E THREIDEH J/AU
E ABU-THREIDEH J/AU
E GONG F/AU
L8 234 S E3
E KETCHUM K A/AU
E KETCHUM K A/AU
L9 478 S E3-E8
E DIFRANCESCO V/AU
L10 117 S E3-E4
E BEASLEY E M/AU
L11 320 S E3

=> s 18 or 19 or 110 or 111
L12 973 L8 OR L9 OR L10 OR L11

=> s 12 and 112
L13 2 L2 AND L12

=> d 1-2 ibib ab

L13 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

ACCESSION NUMBER: 2003-03137 BIOTECHDS

TITLE: New **SR protein-specific** kinase
2 peptides and nucleic acid sequences, useful as models for
developing human therapeutic targets, in identifying
therapeutic proteins, and in identifying agents that modulate
kinase activity;

recombinant enzyme protein production and sense and
antisense use in gene therapy

AUTHOR: ABU-THREIDEH J; GONG F; KETCHUM K A; DI
FRANCESCO V; BEASLEY E M

PATENT ASSIGNEE: ABU-THREIDEH J; GONG F; KETCHUM K A; DI FRANCESCO V; BEASLEY
E M

PATENT INFO: US 2002094560 18 Jul 2002

APPLICATION INFO: US 2001-759359 16 Jan 2001

PRIORITY INFO: US 2001-759359 16 Jan 2001; US 2001-759359 16 Jan 2001

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2002-681805 [73]

AB DERWENT ABSTRACT:

NOVELTY - An isolated human kinase peptide, is new.

DETAILED DESCRIPTION - An isolated human kinase peptide, comprising
or consisting of: (a) a fully defined sequence of 699 amino acids (I)
given in the specification; (b) an allelic variant or an ortholog of (I)
encoded by a nucleic acid that hybridizes under stringent conditions to
the opposite strand of a nucleic acid having a sequence of 3253 (II) or
90541 (III) bp given in the specification; or (c) a fragment of (I)
comprising at least 10 contiguous amino acids. INDEPENDENT CLAIMS are
also included for the following: (1) an isolated antibody that
selectively binds to the peptide; (2) an isolated nucleic acid molecule
consisting or comprising: (a) a nucleotide sequence encoding (I); (b) a
nucleotide sequence that encodes an allelic variant or ortholog of (I)
and that hybridizes under stringent conditions to the opposite strand of
(II) or (III); (c) a nucleotide sequence that encodes a fragment of (I)
comprising at least 10 contiguous amino acids; (d) a complement of
(a)-(c); (3) a gene chip comprising the nucleic acid; (4) a transgenic
non-human animal comprising the nucleic acid; (5) a nucleic acid vector
comprising the nucleic acid; (6) a host cell containing the nucleic acid
vector; (7) a method for producing the peptide defined above by
introducing a nucleotide sequence encoding an amino acid sequence defined
above into a host cell, and culturing the host cell under conditions in
which the peptides are expressed from the nucleotide sequence; (8) a
method for detecting the presence of a nucleic acid molecule as defined
above, in a sample, by contacting the sample with an oligonucleotide that
hybridizes to the nucleic acid molecule under stringent conditions, and
determining whether the oligonucleotide binds to the nucleic acid
molecule in the sample; (9) a method for identifying a modulator of a
peptide defined above with an agent, and determining if the agent has
modulated the function or activity of the peptide; (10) a method for
identifying an agent that binds to a peptide defined above, by contacting
the peptide with an agent and assaying the contacted mixture to determine
whether a complex is formed with the agent bound to the peptide; (11) a
pharmaceutical composition comprising an agent identified by the method
of (10), and a pharmaceutical carrier; (12) a method of treating a
disease or condition mediated by a human kinase protein by administering
an agent identified in (10); (13) a method for identifying a modulator of

the expression of a peptide defined above, by contacting the cell expressing the peptide with an agent, and determining if the agent has modulated the expression of the peptide; (14) an isolated human kinase peptide having an amino acids sequence that shares at least 70% homology with (I); and (15) an isolated nucleic acid molecule encoding a human kinase peptide and sharing at least 80% homology with (II) or (III).

BIOTECHNOLOGY - Preparation: The peptides are isolated from cells by standard isolation techniques. Preferred Method: The agent is administered to a host cell comprising an expression vector that expresses the peptide. Preferred Sequence: The human kinase peptide preferably shares at least 90% homology with (I). The nucleic acid encoding the human kinase peptide preferably shares at least 90% homology with (II) or (III).

USE - The **SR protein-specific kinase 2** peptide and nucleic acid sequences can be used as models for the development of human therapeutic targets, aid in the identification of therapeutic proteins, and as targets for the development of human therapeutic agents that modulate kinase activity in cells and tissues that express the kinase. These may further be used as query sequences to perform a search against sequence databases to identify other family members or related sequences. The peptides can also be used to raise antibodies or to elicit another immune response, as markers for tissues in which the corresponding protein is preferentially expressed, to identify the binding partner/ligand to develop a system to identify inhibitors of the binding interaction, and in pharmacogenomic analysis. The nucleic acids are useful as probes or primers, for expressing antigenic portions of the proteins, for constructing vectors, host cells or transgenic animals expressing the nucleic acids and peptide, for monitoring the effectiveness of modulating compounds on the expression or activity of the kinase gene in clinical trials or in treatment regimen, and as antisense constructs to control kinase gene expression.

EXAMPLE - No example given. (56 pages)

L13 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:540194 HCAPLUS
DOCUMENT NUMBER: 137:105745
TITLE: Identification, cloning, genomic and cDNA sequences and therapeutic use of a human protein kinase SRPK2 alternative splice form
INVENTOR(S): Abu-Threideh, Jane; Gong, Fangcheng; Ketchum, Karen A.; Di Francesco, Valentina; Beasley, Ellen M.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 56 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002094560	A1	20020718	US 2001-759359	20010116
US 6492153	B2	20021210		
CA 2435200	AA	20020725	CA 2002-2435200	20020109
WO 2002057458	A2	20020725	WO 2002-US37	20020109
WO 2002057458	A3	20030918		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
 GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
 GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1360302 A2 20031112 EP 2002-708938 20020109
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2003175927 A1 20030918 US 2002-207973 20020731
 US 6753175 B2 20040622
 US 2004157297 A1 20040812 US 2004-799676 20040315
 PRIORITY APPLN. INFO.: US 2001-759359 A 20010116
 WO 2002-US37 W 20020109
 US 2002-207973 A3 20020731

AB The cDNA and genomic sequences and the encoded amino acid sequences of a novel alternative splice form of **SR protein-specific** kinase 2 (SRPK2) from human are disclosed. Chromosomal mapping of the SRPK2 isoform gene, tissue-specific expression profiles and structural motifs of the polypeptide are provided. The present invention specifically provides isolated peptide and nucleic acid mols., methods of identifying orthologs and paralogs of the kinase peptides, and methods of identifying modulators of the kinase peptides.

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FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:24:10 ON 01 FEB 2005

L1 1280112 S KINASE?
 L2 120 S "SR PROTEIN-SPECIFIC"
 L3 98 S L1 AND L2
 L4 0 S "SPRK2"
 L5 6900726 S CLON? OR EXPRESS? OR RECOMBINANT
 L6 61 S L3 AND L5
 L7 18 DUP REM L6 (43 DUPLICATES REMOVED)
 E ABUTHREIDEH J/AU
 E THREIDEH J/AU
 E ABU-THREIDEH J/AU
 E GONG F/AU
 L8 234 S E3
 E KETCHUM K A/AU
 E KETCHUM K A/AU
 L9 478 S E3-E8
 E DIFRANCESCO V/AU
 L10 117 S E3-E4
 E BEASLEY E M/AU
 L11 320 S E3
 L12 973 S L8 OR L9 OR L10 OR L11
 L13 2 S L2 AND L12

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L14 2 L3 AND L12

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(FILE 'HOME' ENTERED AT 09:23:45 ON 01 FEB 2005)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:24:10 ON 01 FEB 2005

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 L3 98 S L1 AND L2
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 L5 6900726 S CLON? OR EXPRESS? OR RECOMBINANT

	L #	Hits	Search Text
1	L1	55945	kinase\$2
2	L2	46147 1	human
3	L3	70086 0	clon\$3 or express\$3 or recombinant
4	L4	18052	l1 same l2
5	L5	10476	l3 same l4
6	L6	11	"SR protein-specific"
7	L7	8	l1 same l6
8	L8	0	"SPRK2"
9	L9	7840	KETCHUM GONG DIFRANCESCO BEASLEY
10	L10	5	l6 and l9
11	L11	1035	l1 and l9
12	L12	318	l5 and l9

L6	61 S L3 AND L5
L7	18 DUP REM L6 (43 DUPLICATES REMOVED)
	E ABUTHREIDEH J/AU
	E THREIDEH J/AU
	E ABU-THREIDEH J/AU
	E GONG F/AU
L8	234 S E3
	E KETCHUM K A/AU
	E KETCHUM K A/AU
L9	478 S E3-E8
	E DIFRANCESCO V/AU
L10	117 S E3-E4
	E BEASLEY E M/AU
L11	320 S E3
L12	973 S L8 OR L9 OR L10 OR L11
L13	2 S L2 AND L12
L14	2 S L3 AND L12

	Issue Date	Pages	Document ID	Title
1	20040812	102	US 20040157297 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
2	20040610	22	US 20040110177 A1	Method for identifying functional nucleic acids
3	20030918	102	US 20030175927 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
4	20030828	18	US 20030162230 A1	Method for quantifying phosphokinase activity on proteins
5	20020718	56	US 20020094560 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
6	20040622	98	US 6753175 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
7	20021210	95	US 6492153 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
8	19960924	42	US 5559019 A	Protein serine kinase, SRPK1

	Issue Date	Pages	Document ID	Title
1	20040812	102	US 20040157297 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
2	20030918	102	US 20030175927 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
3	20020718	56	US 20020094560 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
4	20040622	98	US 6753175 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
5	20021210	95	US 6492153 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof

	Issue Date	Pages	Document ID	Title
1	20050127	44	US 20050019821 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
2	20050113	35	US 20050009090 A1	Isolated human casein kinase proteins, nucleic acid molecules encoding human casein kinase proteins, and uses thereof
3	20050106	68	US 20050003446 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof
4	20041230	69	US 20040266679 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
5	20041223	79	US 20040259201 A1	Recombinant surfactant protein D compositions and methods of use thereof
6	20041216	90	US 20040253698 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
7	20041209	113	US 20040247578 A1	Methods and reagents for inducing immunity
8	20041202	151	US 20040244069 A1	Transgenic animal model of bone mass modulation
9	20041202	40	US 20040242475 A1	Isolated human secreted proteins, nucleic acid molecules encoding human secreted proteins, and uses thereof

10	20041111	54	US 20040225117 A1	Isolated human ras-like proteins, nucleic acid molecules encoding these human ras-like proteins, and uses thereof
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	Issue Date	Pages	Document ID	Title
11	20041111	186	US 20040224408 A1	THAP proteins as nuclear receptors for chemokines and roles in transcriptional regulation, cell proliferation and cell differentiation
12	20041104	143	US 20040221326 A1	Transgenic animal model of bone mass modulation
13	20041104	23	US 20040220099 A1	Polypeptides selectively expressed in fat tissue and methods for use thereof
14	20041028	8	US 20040216179 A1	Recombinant plasmid expressing two fluorescence genes
15	20041028	195	US 20040214783 A1	Compositions and methods for treatment of neoplastic disease
16	20041028	47	US 20040214278 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
17	20041014	31	US 20040203158 A1	Transposon-insulator element delivery systems
18	20041014	43	US 20040203009 A1	Isolated human ras-like proteins, nucleic acid molecules encoding these human ras-like proteins, and uses thereof
19	20041014	75	US 20040202652 A1	Methods and compositions for control of bone formation via modulation of leptin activity
20	20040923	35	US 20040185450 A1	MCP-1 mutant proteins, antibodies, compositions, methods and uses

21	20040916	42	US 20040180438 A1	Methods and compositions for silencing genes without inducing toxicity
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	Issue Date	Pages	Document ID	Title
22	20040916	41	US 20040180402 A1	Isolated human ras-like proteins, nucleic acid molecules encoding these human ras-like proteins, and uses thereof
23	20040916	93	US 20040180038 A1	Effectors of innate immunity determination
24	20040909	303	US 20040176582 A1	High bone mass gene of 11q13.3
25	20040909	85	US 20040175751 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
26	20040909	56	US 20040175369 A1	Stat3 antagonists and their use as vaccines against cancer
27	20040826	98	US 20040167198 A1	Vasculostatic agents and methods of use thereof
28	20040819	95	US 20040162411 A1	Potent T cell modulating molecules
29	20040812	102	US 20040157297 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
30	20040805	53	US 20040152123 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
31	20040805	30	US 20040152117 A1	Use of post-transcriptional gene silencing for identifying nucleic acid sequences that modulate the function of a cell

	Issue Date	Pages	Document ID	Title
32	20040729	33	US 20040146978 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding human Ras-like proteins, and uses thereof
33	20040729	102	US 20040146924 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
34	20040722	89	US 20040142366 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
35	20040722	51	US 20040142352 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
36	20040715	111	US 20040137499 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
37	20040708	72	US 20040132152 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
38	20040701	320	US 20040126861 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
39	20040701	70	US 20040126819 A1	Glial cell line-derived neurotrophic factor receptors
40	20040624	26	US 20040120923 A1	Method of treatment using a cytokine able to bind IL-18BP to inhibit the activity of a second cytokine

41	20040617	55	US 20040117867 A1	Transgenic cancer models in fish
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	Issue Date	Pages	Document ID	Title
42	20040527	85	US 20040101885 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
43	20040520	61	US 20040097409 A1	Compositions and methods for inhibiting human immunodeficiency virus infection by down-regulating human cellular genes
44	20040513	44	US 20040092444 A1	Neuroprotective synergy of erythropoietin and insulin-like growth factor
45	20040513	207	US 20040091993 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
46	20040506	63	US 20040086926 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
47	20040429	66	US 20040082772 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
48	20040429	48	US 20040081999 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
49	20040429	244	US 20040081644 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
50	20040408	248	US 20040068095 A1	Novel human proteins, polynucleotides encoding them and methods of using the same

	Issue Date	Pages	Document ID	Title
51	20040408	53	US 20040067568 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
52	20040408	47	US 20040067522 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof
53	20040401	68	US 20040063142 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof
54	20040401	53	US 20040063130 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
55	20040304	184	US 20040043466 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
56	20040226	84	US 20040038860 A1	Reagents and methods for modulating dkk-mediated interactions
57	20040226	52	US 20040038363 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
58	20040226	40	US 20040038362 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
59	20040226	49	US 20040038361 A1	Novel protein kinase (NPK-110)
60	20040129	108	US 20040019195 A1	Recombinant vector expressing multiple costimulatory molecules and uses thereof

	Issue Date	Pages	Document ID	Title
61	20040129	155	US 20040018591 A1	Methods and compositions for protein expression and purification
62	20040101	85	US 20040001803 A1	Effectors of innate immunity determination
63	20031218	111	US 20030232408 A1	ISOLATED HUMAN KINASE PROTEINS
64	20031211	40	US 20030228674 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
65	20031204	28	US 20030224987 A1	Immune-modulating peptide
66	20031127	276	US 20030219806 A1	Novel 18607, 15603, 69318, 12303, 48000, 52920, 5433, 38554, 57301, 58324, 55063, 52991, 59914, 59921 and 33751 molecules and uses therefor
67	20031127	81	US 20030219793 A1	High bone mass gene of 11q13.3
68	20031113	43	US 20030211490 A1	Plants tolerant of environmental stress conditions, methods of generating same and novel polynucleotide sequence utilized thereby
69	20031016	85	US 20030195256 A1	Inhibitors of nitric oxide synthase
70	20030925	70	US 20030180786 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
71	20030925	39	US 20030180325 A1	Regulation of apoptosis in aquatic organisms by aquabirnavirus

	Issue Date	Pages	Document ID	Title
72	20030918	102	US 20030175927 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
73	20030918	45	US 20030175926 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
74	20030918	210	US 20030175791 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
75	20030911	81	US 20030171255 A1	Compositions and methods for modulation of DARPP-32 phosphorylation
76	20030904	36	US 20030166589 A1	Method and pharmaceutical composition for the treatment of multiple sclerosis
77	20030904	48	US 20030166221 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
78	20030904	43	US 20030166220 A1	CDNA, GENOMIC, AND PREDICTED PROTEIN SEQUENCES OF LEARNING-INDUCED KINASES
79	20030904	79	US 20030166219 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
80	20030904	42	US 20030166218 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof

	Issue Date	Pages	Document ID	Title
81	20030904	85	US 20030166215 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
82	20030904	64	US 20030166203 A1	ISOLATED HUMAN RAS-LIKE PROTEINS, NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE PROTEINS, AND USES THEREOF
83	20030828	41	US 20030162237 A1	Methods of monitoring enzyme activity
84	20030821	127	US 20030157681 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
85	20030821	151	US 20030157113 A1	Compositions and methods for treatment of neoplastic disease
86	20030814	108	US 20030153045 A1	Methods and compositions for protein expression and purification
87	20030807	56	US 20030147883 A1	Ligands for FPR class receptors that induce a host immune response to a pathogen or inhibit HIV infection
88	20030807	56	US 20030147881 A1	Method for preparation of single chain antibodies
89	20030731	44	US 20030143690 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
90	20030731	97	US 20030143192 A1	Chemokine beta-7

91	20030724	61	US 20030140354 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
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	Issue Date	Pages	Document ID	Title
92	20030717	53	US 20030134319 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
93	20030710	76	US 20030129704 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
94	20030710	90	US 20030129645 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
95	20030703	49	US 20030125265 A1	Anti-estrogen receptor agents for chemotherapy
96	20030626	156	US 20030119037 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
97	20030619	214	US 20030114379 A1	Methods of treating or preventing cell, tissue, and organ damage using human myeloid progenitor inhibitory factor-1 (MPIF-1)
98	20030612	38	US 20030108952 A1	FLOW CYTOMETRIC METHODS FOR THE CONCURRENT DETECTION OF DISCRETE FUNCTIONAL CONFORMATIONS OF PRB IN SINGLE CELLS
99	20030605	33	US 20030104516 A1	PROTEIN KINASE NPK-110
100	20030605	168	US 20030104358 A1	Diagnosis methods based on microcompetition for a limiting GABP complex

101	20030529	245	US 20030099942 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
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	Issue Date	Pages	Document ID	Title
102	20030515	85	US 20030092601 A1	Microcompetition and human disease
103	20030508	48	US 20030087294 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof
104	20030424	39	US 20030077799 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
105	20030410	173	US 20030069199 A1	Treatment methods based on microcompetition for a limiting GABP complex
106	20030410	172	US 20030068616 A1	Drug discovery assays based on microcompetition for a limiting GABP complex
107	20030403	68	US 20030064475 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof
108	20030327	46	US 20030059917 A1	PAS kinase
109	20030320	34	US 20030055001 A1	Immune-enhancing peptides
110	20030320	90	US 20030054529 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
111	20030320	89	US 20030054490 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding phosphatase proteins and uses thereof

112	20030313	131	US 20030049824 A1	ISOLATED HUMAN PHOSPHATASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHATASE PROTEINS, AND USES THEREOF
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	Issue Date	Pages	Document ID	Title
113	20030313	81	US 20030049795 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
114	20030313	47	US 20030049792 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof
115	20030306	75	US 20030044404 A1	Regulation of angiogenesis with zinc finger proteins
116	20030227	28	US 20030039957 A1	Functional protein expression for rapid cell-free phenotyping
117	20030213	30	US 20030032596 A1	Inhibition of the Src kinase family pathway as a method of treating HBV infection and hepatocellular carcinoma
118	20030206	185	US 20030027307 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
119	20030130	89	US 20030022341 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
120	20030130	207	US 20030022340 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
121	20030130	40	US 20030022339 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
122	20030130	53	US 20030022337 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof

	Issue Date	Pages	Document ID	Title
123	20030130	41	US 20030022232 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
124	20030130	100	US 20030022229 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
125	20030130	120	US 20030021776 A1	Regulation of angiogenesis with zinc finger proteins
126	20030123	41	US 20030017529 A1	Isolated human secreted proteins, nucleic acid molecules encoding human secreted proteins, and uses thereof
127	20030102	35	US 20030003560 A1	Isolated human casein kinase proteins, nucleic acid molecules encoding human casein kinase proteins, and uses thereof
128	20021128	167	US 20020177551 A1	Compositions and methods for treatment of neoplastic disease
129	20021114	71	US 20020169289 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
130	20021114	53	US 20020168741 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
131	20021024	40	US 20020156257 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof

	Issue Date	Pages	Document ID	Title
132	20021017	95	US 20020151020 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
133	20021017	23	US 20020150553 A1	Compositions containing C-terminal polypeptides of angiogenic chemokines and methods of use
134	20021010	50	US 20020146795 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
135	20021010	58	US 20020146758 A1	Isolated human ras-like proteins, nucleic acid molecules encoding these human ras-like proteins, and uses thereof
136	20021003	54	US 20020142431 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
137	20021003	52	US 20020142430 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
138	20021003	40	US 20020142427 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
139	20021003	70	US 20020142382 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof

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140	20021003	42	US 20020142380 A1	Isolated human ras-like proteins, nucleic acid molecules encoding these human ras-like proteins, and uses thereof
141	20020926	31	US 20020137167 A1	ISOLATED HUMAN CASEIN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN CASEIN KINASE PROTEINS, AND USES THEREOF
142	20020926	36	US 20020137128 A1	Isolated human transporter proteins, nucleic acid molecules encoding human transporter proteins, and uses thereof
143	20020926	52	US 20020137042 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
144	20020919	89	US 20020132325 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
145	20020919	90	US 20020132324 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
146	20020919	184	US 20020132322 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
147	20020919	106	US 20020132291 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof

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148	20020919	30	US 20020132257 A1	Use of post-transcriptional gene silencing for identifying nucleic acid sequences that modulate the function of a cell
149	20020912	174	US 20020127683 A1	ISOLATED HUMAN KINASE PROTEINS; NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
150	20020905	63	US 20020123121 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
151	20020905	69	US 20020123120 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
152	20020905	182	US 20020123082 A1	Methods to identify compounds useful for the treatment of proliferative and differentiative disorders
153	20020829	42	US 20020119920 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
154	20020829	53	US 20020119548 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
155	20020829	94	US 20020119544 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF

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156	20020822	44	US 20020115172 A1	Isolated human ras-like proteins, nucleic acid molecules encoding these human ras-like proteins, and uses thereof
157	20020822	114	US 20020115171 A1	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
158	20020815	67	US 20020110889 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
159	20020815	49	US 20020110888 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
160	20020808	62	US 20020108133 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
161	20020808	61	US 20020107170 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
162	20020801	39	US 20020103128 A1	Regulation of apoptosis in aquatic organisms by aquabirnavirus
163	20020801	34	US 20020103116 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
164	20020801	34	US 20020102553 A1	Molecular markers for the diagnosis of alzheimer's disease

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165	20020801	26	US 20020102259 A1	Methods and compositions for stimulating CD 45 and thereby suppressing microglial activation associated with Alzheimer's disease
166	20020718	69	US 20020094946 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
167	20020718	35	US 20020094561 A1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
168	20020718	56	US 20020094560 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
169	20020718	45	US 20020094558 A1	Family of mammalian potassium channels, their cloning and their use, especially for the screening of drugs
170	20020711	38	US 20020090603 A1	Methods of differentiating and protecting cells by modulating the P38/MEF2 pathway
171	20020704	63	US 20020086391 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEROF
172	20020627	320	US 20020082189 A1	ISOLATED HUMAN SERINE/THREONINE KINASE NUCLEIC ACID MOLECULES ENCODING HUMAN SERINE/THREONINE KINASE AND USES THEREOF
173	20020620	52	US 20020076783 A1	Plants and plants cells expressing histidine tagged intimin

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174	20020613	68	US 20020072491 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
175	20020530	39	US 20020064851 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
176	20020530	44	US 20020064843 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
177	20020516	28	US 20020058313 A1	Use of recombinant enzymes for preparing GDP-L-fucose and fucosylated glycans
178	20020509	78	US 20020055160 A1	ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF
179	20020418	105	US 20020045253 A1	METHODS COMPRISING APOPTOSIS INHIBITORS FOR THE GENERATION OF TRANSGENIC PIGS
180	20020418	37	US 20020045191 A1	Inhibition of the SRC kinase family pathway as a method of treating HBV infection and hepatocellular carcinoma
181	20020411	14	US 20020042127 A1	DONOR CELLS EXPRESSING FUSOGENS
182	20020321	69	US 20020034803 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
183	20020314	46	US 20020032322 A1	Family of mammalian potassium channels, their cloning and their use, especially for the screening of drugs

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185	20020214	36	US 20020019002 A1	Methods of monitoring enzyme activity
186	20020207	44	US 20020015987 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
187	20011220	44	US 20010053844 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
188	20011213	33	US 20010051360 A1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
189	20011213	59	US 20010051184 A1	METHOD FOR USING SOLUBLE CURCUMIN TO INHIBIT PHOSPHORYLASE KINASE IN INFLAMMATORY DISEASES
190	20011115	20	US 20010041346 A1	METHOD FOR ASSAYING COMPOUNDS AFFECTING SMOOTH MUSCLE CONTRACTILE STATE
191	20050201	39	US 6849611 B2	Implantation of biological pacemaker that is molecularly determined
192	20041228	60	US 6835562 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
193	20041214	45	US 6830912 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof

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194	20041123	179	US 6821765 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
195	20041123	37	US 6821740 B2	Flow cytometric methods for the concurrent detection of discrete functional conformations of PRB in single cells
196	20041102	65	US 6812014 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins and uses thereof
197	20041026	37	US 6808912 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
198	20041026	86	US 6808911 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
199	20041026	54	US 6808877 B2	Ligands for FPR class receptors that induce a host immune response to a pathogen or inhibit HIV infection
200	20041026	34	US 6808874 B2	Methods of monitoring enzyme activity
201	20041019	73	US 6806072 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
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203	20041005	32	US 6800283 B2	Isolated human casein kinase proteins, nucleic acid molecules encoding human casein kinase proteins, and uses thereof
204	20040824	87	US 6780626 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
205	20040824	285	US 6780609 B1	High bone mass gene of 1.1q13.3
206	20040810	68	US 6773904 B2	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
207	20040803	289	US 6770461 B1	High bone mass gene of 11q13.3
208	20040622	98	US 6753175 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
209	20040601	61	US 6743904 B2	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof
210	20040525	81	US 6740513 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
211	20040511	43	US 6733992 B2	Isolated human Ras-like proteins, nucleic acid molecules encoding these human Ras-like proteins, and uses thereof

212	20040511	50	US 6733978 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
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213	20040504	96	US 6730506 B2	Isolated human kinase proteins
214	20040420	238	US 6723547 B2	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
215	20040406	59	US 6716604 B2	Nucleic acid molecules encoding a subunit of a human calcium/calmodulin-dependent protein kinase
216	20040316	106	US 6706511 B2	Isolated human kinase proteins
217	20040316	85	US 6706510 B2	Isolated human kinase proteins
218	20040224	70	US 6696259 B1	Assays using glial cell line-derived neurotrophic factor receptors
219	20040217	123	US 6692949 B2	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
220	20040217	66	US 6692948 B2	Isolated human kinase proteins
221	20040210	65	US 6689597 B2	Isolated human kinase proteins
222	20040203	50	US 6686187 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
223	20040203	50	US 6686176 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
224	20040120	202	US 6680188 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof

225	20031230	64	US 6670164 B2	Isolated human kinase proteins
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227	20031230	60	US 6670162 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
228	20031216	44	US 6664087 B2	Isolated human kinase proteins
229	20031216	41	US 6664086 B2	cDNA, genomic, and predicted protein sequences of learning-induced kinases
230	20031216	81	US 6664085 B2	Isolated human calcium/calmodulin (CaMk) dependent kinase proteins
231	20031209	79	US 6660837 B1	Modified protein derived from protein kinase N
232	20031209	34	US 6660725 B1	Method and composition for modulating amyloidosis
233	20031125	180	US 6653117 B2	Isolated human kinase proteins
234	20031125	49	US 6653116 B2	Isolated human kinase proteins
235	20031118	38	US 6649389 B2	Isolated human kinase proteins
236	20031111	64	US 6645492 B2	Methods of treating asthma with interleukin-9 receptor antibodies
237	20031028	78	US 6638745 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
238	20031021	31	US 6635802 B1	Nuclear transfer using cells cultured in serum starvation media containing apoptosis inhibitors
239	20031007	37	US 6630456 B2	Regulation of apoptosis in aquatic organisms by aquabirnavirus

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240	20031007	50	US 6630337 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
241	20031007	37	US 6630336 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
242	20031007	304	US 6630334 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
243	20030902	62	US 6613506 B1	Compositions and methods for inhibiting human immunodeficiency virus infection by down-regulating human cellular genes
244	20030826	55	US 6610838 B1	P13 antigens from Borrelia
245	20030805	60	US 6602850 B1	Method of treating asthma using soluble IL-9 receptor variants
246	20030624	89	US 6582946 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
247	20030617	66	US 6579709 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
248	20030617	49	US 6579691 B1	Protein kinase NPK-110
249	20030603	66	US 6573364 B1	Isolation and characterization of Hermansky Pudlak Syndrome (HPS) protein complexes and HPS protein-interacting proteins

250	20030520	55	US 6566073 B1	Materials and methods involving conditional retention domains
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251	20030513	61	US 6562347 B1	Chemokine-tumor antigen fusion proteins as cancer vaccines
252	20030429	41	US 6555352 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
253	20030429	23	US 6555105 B1	Method of treatment with a RANTES antagonist polypeptide
254	20030422	122	US 6551809 B2	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
255	20030415	32	US 6548631 B1	Macrophage derived chemokine (MDC) as an anti-viral agent for the treatment and prevention of lentivirus infection
256	20030415	24	US 6548257 B2	Methods of identifying nucleic acid probes to quantify the expression of a target nucleic acid
257	20030325	75	US 6537788 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
258	20030318	37	US 6534299 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
259	20030304	86	US 6528294 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
260	20030204	34	US 6514686 B2	Method and composition for modulating amyloidosis

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261	20030128	80	US 6511800 B1	Methods of treating nitric oxide and cytokine mediated disorders
262	20021231	86	US 6500656 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
263	20021231	44	US 6500655 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
264	20021217	204	US 6495129 B1	Methods of inhibiting hematopoietic stem cells using human myeloid progenitor inhibitory factor-1 (MPIF-1) (Ckbeta-8/MIP-3)
265	20021217	92	US 6495128 B1	Human chemokine .beta.-7 deletion and substitution proteins
266	20021210	107	US 6492156 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
267	20021210	180	US 6492155 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
268	20021210	96	US 6492154 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
269	20021210	95	US 6492153 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof

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270	20021203	49	US 6489153 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
271	20021119	46	US 6482935 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
272	20021119	67	US 6482624 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
273	20021112	28	US 6479633 B1	Chemokine alpha 2
274	20021112	86	US 6479270 B1	Isolated human phosphatase proteins, nucleic acid molecules encoding human phosphatase proteins, and uses thereof
275	20021112	202	US 6479269 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
276	20021029	31	US 6472516 B1	Progestin-regulated gene
277	20021008	49	US 6461846 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
278	20020924	50	US 6455291 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
279	20020910	31	US 6448057 B1	Isolated human casein kinase proteins, nucleic acid molecules encoding human casein kinase proteins, and uses thereof

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280	20020903	34	US 6444870 B1	Methods for assessing the role of calcineurin immunosuppression and neurotoxicity
281	20020820	38	US 6437110 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
282	20020820	35	US 6436634 B1	Compositions and methods for inhibiting human immunodeficiency virus infection by down-regulating human cellular genes
283	20020806	41	US 6428994 B1	cDNA, genomic, and predicted protein sequences of learning-induced kinases
284	20020730	60	US 6426206 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
285	20020723	65	US 6423521 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
286	20020716	29	US 6420338 B1	Inhibition of the Src kinase family pathway as a method of treating HBV infection and hepatocellular carcinoma
287	20020709	39	US 6416990 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
288	20020702	76	US 6413756 B2	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof

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289	20020625	69	US 6410294 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
290	20020625	27	US 6410268 B1	Polynucleotides encoding chemokine alpha-3
291	20020625	25	US 6410229 B1	Expression monitoring by hybridization to high density nucleic acid arrays
292	20020611	82	US 6403353 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
293	20020514	85	US 6387677 B1	Nucleic acid molecules encoding human calcium/calmodulin (CaMK) dependent kinase proteins
294	20020507	26	US 6383746 B1	Functional promoter for CCR5
295	20020416	87	US 6372468 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
296	20020409	100	US 6369294 B1	Methods comprising apoptosis inhibitors for the generation of transgenic pigs
297	20020305	16	US 6352833 B1	Methods for discovery of vasoactive compounds for the nitric oxide-cyclic GMP signal pathway
298	20020205	116	US 6344316 B1	Nucleic acid analysis techniques
299	20020122	50	US 6340584 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof

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300	20020122	88	US 6340583 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
301	20011218	69	US 6331423 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
302	20011204	35	US 6326152 B1	Compositions and methods for inhibiting human immunodeficiency virus infection by down-regulating human cellular genes
303	20011127	40	US 6323016 B1	Isolated human kinase proteins, nucleic acid molecules encoding human kinase proteins, and uses thereof
304	20011120	44	US 6319679 B1	PAS kinase
305	20011113	68	US 6316208 B1	Methods for determining isolated p27 protein levels and uses thereof
306	20011030	43	US 6309855 B1	Family of mammalian potassium channels, their cloning and their use, especially for the screening of drugs
307	20010807	99	US 6271436 B1	Cells and methods for the generation of transgenic pigs
308	20001212	22	US 6159711 A	DNA encoding rantes peptide fragments and methods of treatment with the fragments
309	20000111	80	US 6013499 A	Rho target protein kinase p160
310	20000111	26	US 6013470 A	Family of mammalian potassium channels, their cloning and their use especially for the screening of drugs

311	20000104	37	US 6010853 A	Siva genes, novel genes involved in CD27- mediated apoptosis
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312	19991228	19	US 6007998 A	Leptin assay
313	19990608	29	US 5910431 A	Polynucleotides encoding chemokine .alpha.-2
314	19990525	66	US 5906819 A	Rho target protein Rho-kinase
315	19990112	42	US 5858662 A	Diagnosis of Williams syndrome and Williams syndrome cognitive profile by analysis of the presence or absence of a LIM-kinase gene
316	19981103	33	US 5830850 A	Methods for the treatment of bone resorption disorders, including osteoporosis
317	19981006	17	US 5817783 A	DR-nm23 and compositions, methods of making and methods of using the same
318	19970325	34	US 5614397 A	Method and compositions for modulating lifespan of hematolymphoid cells